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December 2, 2010 (*edited 3/23/11*)

TO: All North Carolina Health Care Providers

FROM: Megan Davies, MD, State Epidemiologist

WARNING: SPREAD OF HEPATITIS B THROUGH UNSAFE DIABETES CARE

An outbreak of hepatitis B virus (HBV) infections was recently identified among residents of a long-term care facility in North Carolina resulting in severe illnesses and even deaths. Nationally, there have been more than 15 outbreaks of HBV infection reported in the past 10 years associated with unsafe blood glucose monitoring and insulin administration practices. Since many hepatitis B infections are not recognized or reported, the true number of outbreaks is probably much higher.

In order to prevent additional infections, the North Carolina Division of Public Health urges all health care providers to follow these basic rules for safe diabetes care:

- 1. Fingerstick devices should never be used for more than one person,** even if the lancets are always changed between uses.
- 2. Blood glucose meters should be assigned to an individual person and not be shared.** If blood glucose meters must be shared, they should be cleaned and disinfected according to the manufacturer's instructions after every use.
- 3. Injection equipment (e.g., insulin pens, needles and syringes) should never be used for more than one person**

Providers are also urged to report any suspected HBV infections among long-term care residents to public health authorities immediately. These infections might indicate that other residents are at risk.

Best Practices for Assisted Blood Glucose Monitoring and Insulin Administration

The following are infection control recommendations that anyone who performs or assists with blood glucose monitoring or insulin administration should review to assure they are not placing themselves or persons in their care at risk. Protection from bloodborne viruses and other infections is a basic requirement and expectation anywhere healthcare is provided.



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1. Fingertick Devices

Fingertick devices are used to prick the skin and obtain drops of blood for testing. There are two main types of fingertick devices: those that are designed for reuse on a single person and those that are disposable and for single-use.



Reusable fingertick device

- **Reusable Devices:** These devices often resemble a pen and have the means to remove and replace the lancet after each use, allowing the device to be used more than once. Some of these devices have been previously approved and marketed for multi-patient use, and require the lancet and disposable components (platforms or endcaps) to be changed between each patient. However, due to failures to change the disposable components, difficulties with cleaning and disinfection after use, and their link to multiple HBV infection outbreaks, **CDC recommends that these devices never be used for more than one person.** If these devices are used, it should only be by individual persons using these devices for self-monitoring of blood glucose.



Single-use, disposable fingertick devices

- **Single-use, auto-disabling fingertick devices:** These are devices that are disposable and prevent reuse through an auto-disabling feature. In settings where assisted monitoring of blood glucose is performed, single-use, auto-disabling fingertick devices should be used.

**Simple rule for safe care:
Fingertick devices should never be used for more than one person.**

2. Blood Glucose Meters

Blood glucose meters are devices that measure blood glucose levels.



- Whenever possible, blood glucose meters should be **assigned to an individual person** and not be shared.
- If blood glucose meters must be shared, the device should be cleaned and disinfected per manufacturer's instructions after every use- even if not visibly contaminated- to prevent carry-over of blood and infectious agents. If the manufacturer does not specify how the device should be cleaned and disinfected then it should not be shared.

Blood glucose meter

**Simple rule for safe care:
Blood glucose meters should not be shared.**

3. Insulin Administration

Insulin can be administered using an insulin pen that is designed for reuse on a single patient. It can also be administered using a needle and syringe after drawing up contents from an insulin vial.



Insulin pen

- **Insulin Pens:** Insulin pens are pen-shaped injector devices for insulin that are intended for use by a single person. The pens have an insulin reservoir, or an insulin cartridge, that usually contains enough insulin for an individual to self-administer several doses (injections) of insulin before the reservoir or cartridge is empty. The individual changes the needle before each insulin injection. Insulin pens are designed to be safe for a single person to use a single pen multiple times, with a new needle for each injection.
- Insulin pens should be assigned to individual persons and labeled appropriately. **They should never be used for more than one person.**



Insulin vial

- **Insulin Vials:** Multi-dose vials of insulin should be dedicated to a single person whenever possible. If the vial must be used for more than one person it should be stored and prepared in a dedicated medication preparation area outside of the patient care environment and away from potentially contaminated equipment. Insulin vials should always be entered with a new needle and new syringe. **Needles and syringes should never be used to administer insulin to more than one person** and should be disposed of immediately after use in an approved sharps container.

**Simple rule for safe care:
Injection equipment (e.g., insulin pens, needles and syringes)
should never be used for more than one person**

Summary of Recommended Practices:

Blood Glucose Monitoring

Fingerstick Devices

- Fingerstick devices should never be used for more than one person. Select single-use lancets that permanently retract upon puncture. This adds an extra layer of safety for the patient and the provider.
- Dispose of used lancets at the point of use in an approved sharps container. Never reuse lancets.

Blood Glucose Meters

- Whenever possible, blood glucose meters should be assigned to an individual person and not be shared.
 - If blood glucose meters must be shared, they should be cleaned and disinfected after every use, per manufacturer's instructions, to prevent carry-over of blood and infectious agents. If the manufacturer does not specify how the device should be cleaned and disinfected then it should not be shared.

General

- Unused supplies and medications should be maintained in clean areas separate from used supplies and equipment (e.g., glucose meters). Do not carry supplies and medications in pockets.

Insulin Administration

- Insulin pens should be assigned to individual persons and labeled appropriately. They should never be used for more than one person.
- Multiple-dose vials of insulin should be dedicated to a single person whenever possible.
- Medication vials should always be entered with a new needle and new syringe

Hand Hygiene (Soap and water or alcohol-based hand rub)

- Wear gloves during blood glucose monitoring and during any other procedure that involves potential exposure to blood or body fluids.
- Change gloves between patient contacts. Change gloves that have touched potentially blood-contaminated objects or fingerstick wounds before touching clean surfaces. Discard gloves in appropriate receptacles.
- Perform hand hygiene immediately after removal of gloves and before touching other medical supplies intended for use on other persons.

Training and Oversight

- Under NC law (rule 10A NCAC 41A .0206), each health care organization that performs invasive procedures including any use of needles to puncture skin must have a written infection control policy and must ensure that workers are trained in the principles of infection control and compliant with the written policy.
- Each health care organization must designate one on-site staff member for each noncontiguous facility to direct infection control activities. This designated staff member must complete a course in infection control approved by the NC Department of Health and Human Services.
- Regularly review each patient's need for blood glucose monitoring and frequency of monitoring to reduce unnecessary exposures.
- Provide a full hepatitis B vaccination series to all unvaccinated staff persons whose activities involve contact with blood or body fluids.
- Assess adherence to infection control recommendations for blood glucose monitoring and insulin administration by periodically observing staff who perform or assist with these procedures and by tracking use of supplies.
- Report to public health authorities any suspected instances of a newly acquired bloodborne infection, such as hepatitis B, in a patient, facility resident, or staff member.